AUTODOC CLUB

How to change water pump & timing belt kit on **Ford Fiesta JA8** – replacement guide

VIDEO TUTORIAL

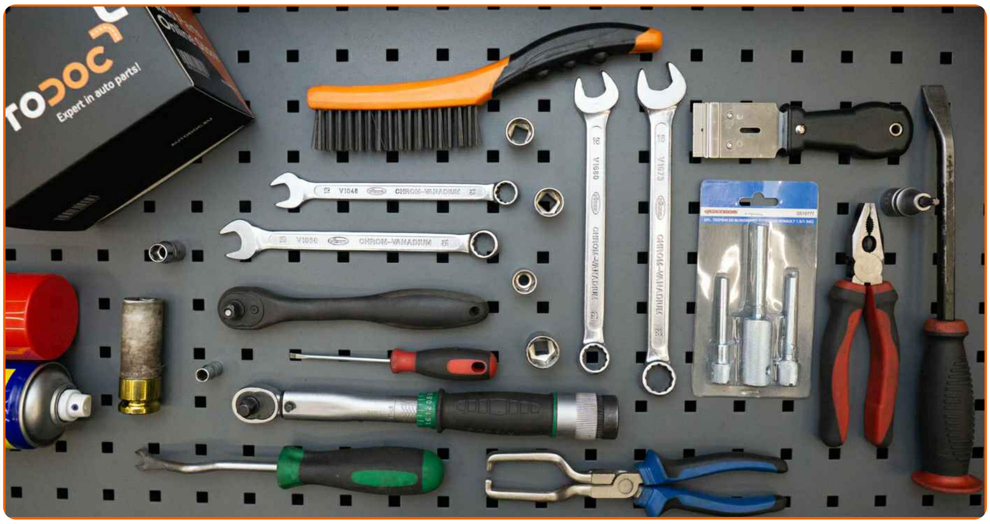


Important!

This replacement procedure can be used for:
FORD C-Max II (DXA/CB7, DXA/CEU) 1.6 TDCi, FORD Grand C-Max (DXA/CB7, DXA/CEU) 1.6 TDCi, FORD Galaxy Mk2 (WA6) MPV 1.6 TDCi, FORD S-Max Mk1 (WA6) 1.6 TDCi, FORD Mondeo Mk4 Hatchback (BA7) 1.6 TDCi, FORD Mondeo Mk4 Estate (BA7) 1.6 TDCi, FORD Focus Mk3 Saloon (DYB) 1.6 TDCi, FORD Focus Mk3 Hatchback (DYB) 1.6 TDCi, FORD Focus Mk3 Estate (DYB) 1.6 TDCi, FORD Fiesta Mk6 Van 1.6 TDCi, FORD Fiesta Mk6 Hatchback (JA8, JR8) 1.6 TDCi, FORD Ecosport Mk2 1.5 TDCi, FORD Tourneo Connect / Grand Tourneo Connect V408 Estate 1.6 TDCi, FORD Transit Connect V408 Van 1.6 TDCi, FORD B-Max (JK8) 1.6 TDCi, (+ 17)

The steps may slightly vary depending on the car design.

REPLACEMENT: WATER PUMP & TIMING BELT KIT – FORD FIESTA JA8. LIST OF THE TOOLS YOU'LL NEED:



- All-purpose cleaning spray
- WD-40 spray
- Sealant
- Combination spanner #13
- Combination spanner #15
- Combination spanner #16
- HEX bit no.H6.
- Drive socket # 7
- Drive socket # 8
- Drive socket # 10
- Drive socket # 13
- Drive socket # 15
- Drive socket # 16
- Drive socket # 18
- Torx bit T30
- Ratchet wrench
- Torque wrench
- Engine timing tool set
- Funnel
- Clip removal tool
- Flat Screwdriver
- Seal scraper
- Combination pliers
- Crow bar
- Fluid container
- Hydraulic transmission jack
- Fender cover

BUY TOOLS

Replacement: water pump & timing belt kit – Ford Fiesta JA8. AUTODOC recommends:

- Follow the terms, recommendations and requirements of the part operation provided by the manufacturer.
- Please note: all work on the car – Ford Fiesta JA8 – should be done with the engine switched off.

CARRY OUT REPLACEMENT IN THE FOLLOWING ORDER:

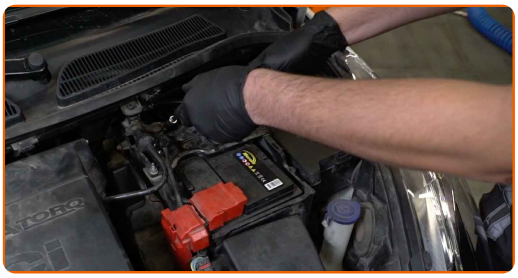
1 Open the bonnet.



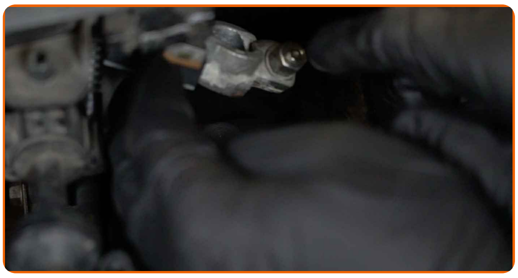
2 Use a fender protection cover to prevent damaging paintwork and plastic parts of the car.



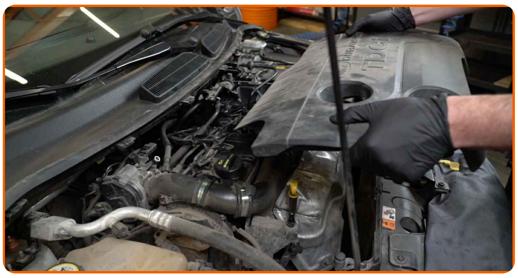
3 Unscrew the fasteners of the car battery terminals. Use a drive socket #10. Use a ratchet wrench.



4 Remove the battery terminals.



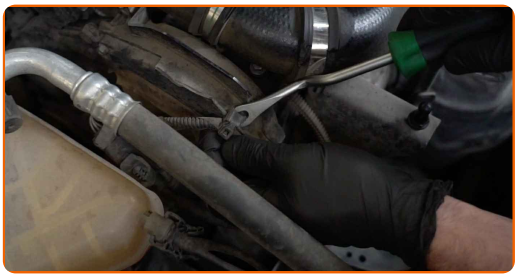
5 Remove the engine cover.



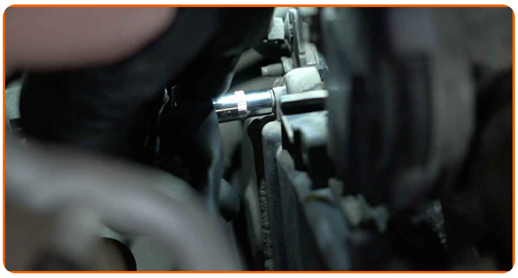
Replacement: water pump & timing belt kit – Ford Fiesta JA8. Professionals recommend:

- Raise the engine cover, holding it on two sides simultaneously.
- Do not apply excessive force when removing the part. Otherwise you may damage it.

6 Detach the engine wiring harness from the upper timing cover. Use a clip removal tool.



7 Unscrew the fasteners of the upper timing cover. Use a drive socket #7. Use a ratchet wrench.



8 Remove the upper timing cover.



9 Unscrew the fasteners of the lower serpentine belt cover. Use Torx T30. Use a ratchet wrench.

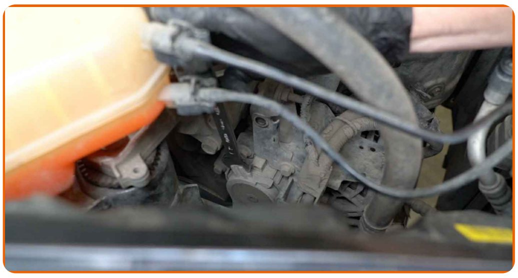


10 Remove the lower serpentine belt cover.



11

Pull aside the V-ribbed belt tensioner pulley. Use a combination spanner #15.



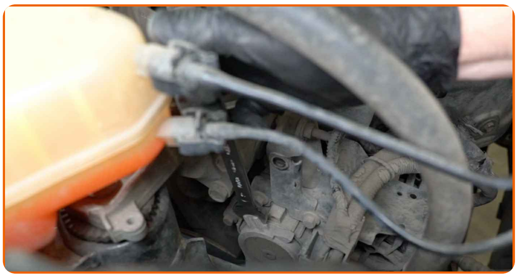
12

Remove the V-ribbed belt.



13

Return the tensioner pulley to its initial position.



14

Disconnect the connector of the air conditioner compressor.



15

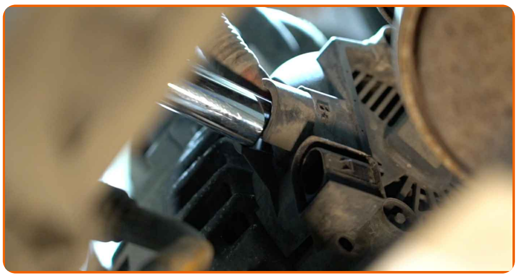
Disconnect the alternator connector.



16 Remove the cap from the alternator wiring harness fastener.



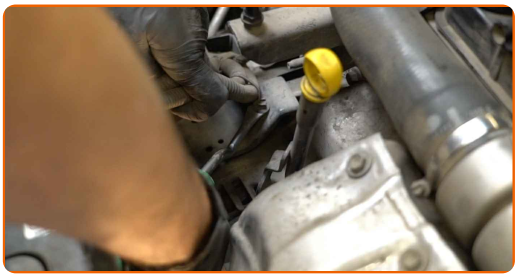
17 Unscrew the alternator wiring harness fastener. Use a drive socket #13. Use a ratchet wrench.



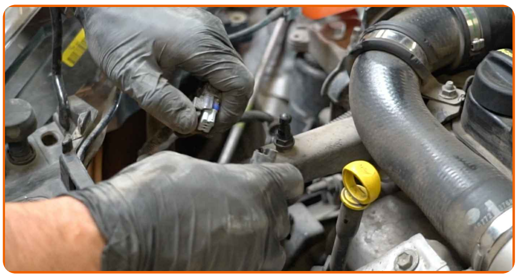
18 Detach the alternator wiring harness.



19 Detach the alternator wiring harness clip from the bracket. Use a clip removal tool.

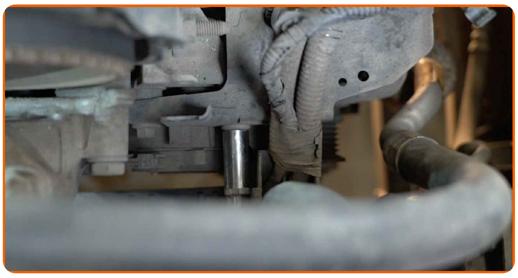


20 Disconnect the engine wiring harness connector.



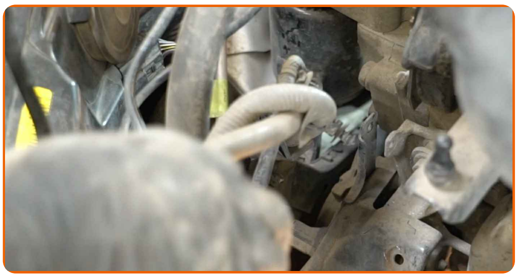
21

Unscrew the fasteners of the engine wiring harness bracket. Use a drive socket #10. Use a ratchet wrench.



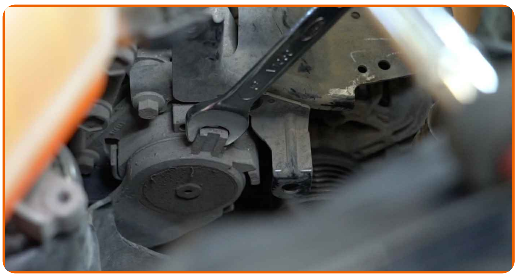
22

Detach the engine wiring harness clip from the timing cover. Use a clip removal tool.



23

Pull aside the V-ribbed belt tensioner pulley. Use a combination spanner #15.



24

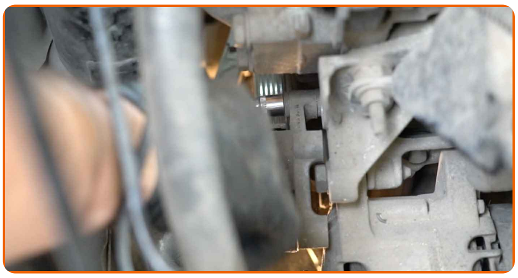
Unscrew the fasteners of the alternator wiring harness bracket. Use a drive socket #10. Use a ratchet wrench.



25 Remove the alternator wiring harness bracket.



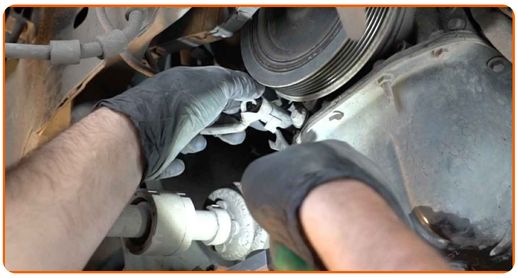
26 Unscrew the fastener of the serpentine belt tensioner pulley. Use a drive socket #10. Use a ratchet wrench.



27 Remove the serpentine belt tensioner pulley.



28 Disconnect the connector of the crankshaft position sensor. Use a clip removal tool.

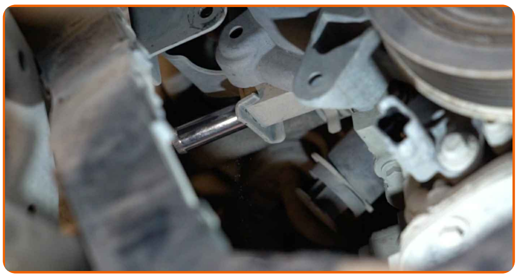


29 Detach the crankshaft position sensor wiring. Use a clip removal tool.

30 Detach the engine wiring harness.



31 Unscrew the fasteners of the engine wiring harness bracket. Use a drive socket #8. Use a ratchet wrench.



32 Remove the crankshaft pulley cap. Use a flat screwdriver.



33 Turn the crankshaft pulley. Use a drive socket #18. Use a ratchet wrench.

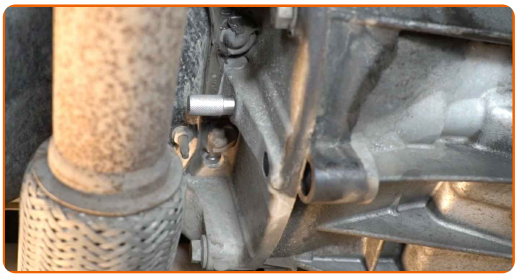


Please note!

- The piston should be at its bottom dead centre (BDC).
- Adjust the valve timing according to the factory marks.

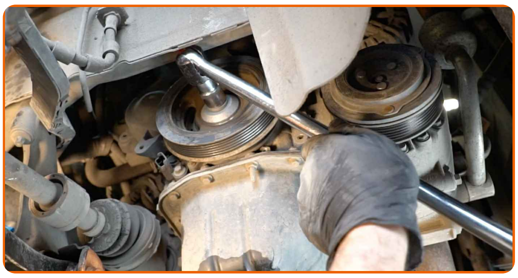
34

Install the flywheel locking tool according to the factory marks. Use an engine timing tool set.



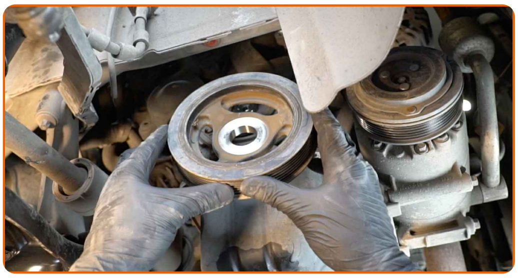
35

Unscrew the crankshaft pulley fastener. Use a drive socket #18. Use a ratchet wrench.



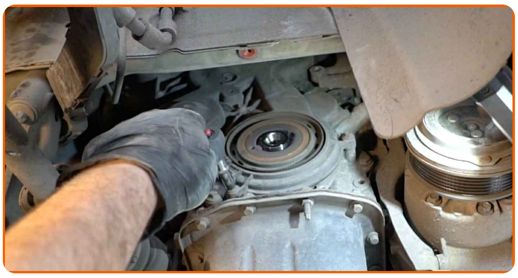
36

Remove the crankshaft pulley.



37

Unscrew the fasteners of the lower timing cover. Use a drive socket #7. Use a ratchet wrench.



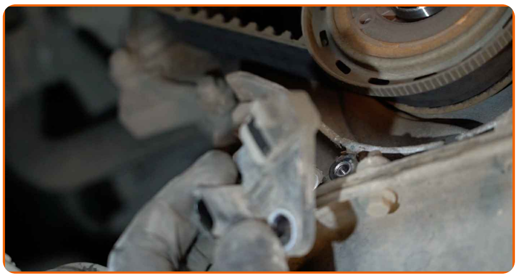
38 Remove the lower timing cover.



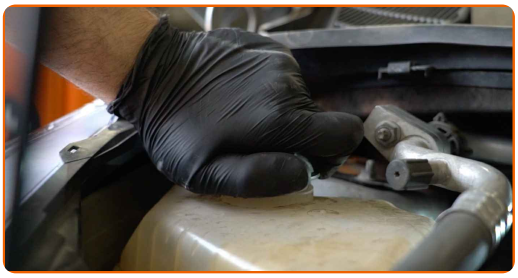
39 Unscrew the fastener of the crankshaft position sensor. Use a drive socket #8. Use a ratchet wrench.



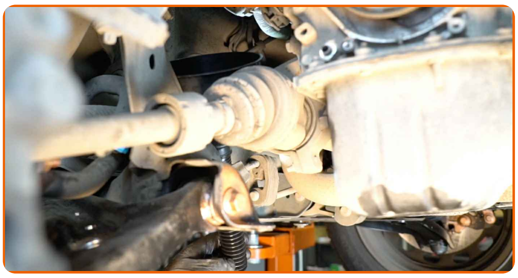
40 Remove the crankshaft position sensor.



41 Unscrew the coolant reservoir cap.

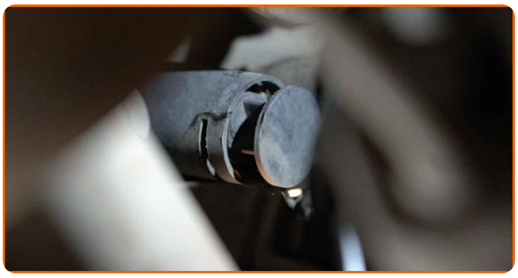


42 Prepare a container for fluids.



43

Clean the coolant drain plug. Use all-purpose cleaning spray.



44

Remove the coolant drain plug retaining clip.



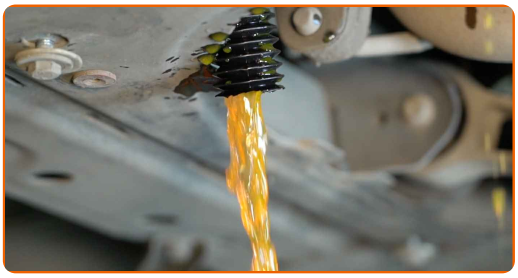
45

Remove the coolant drain plug.



46

Drain the coolant from the engine.



Replacement: water pump & timing belt kit – Ford Fiesta JA8. AUTODOC recommends:

- Caution! The coolant can be very hot.
- Wear gloves to prevent contact with hot liquid.
- All work should be done with the engine stopped.

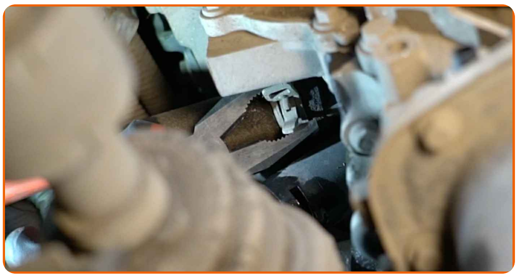
47 Clean the connectors of the coolant hoses. Use all-purpose cleaning spray.



48 Detach the coolant hoses from the coolant reservoir.



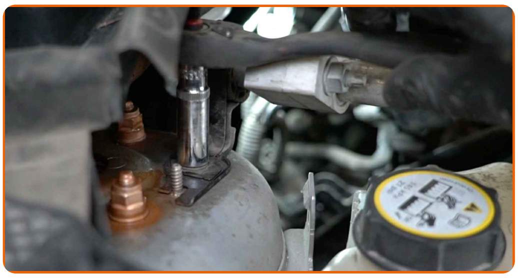
49 Detach the clamp of the lower coolant pipe. Use combination pliers.



50 Detach the lower coolant pipe.



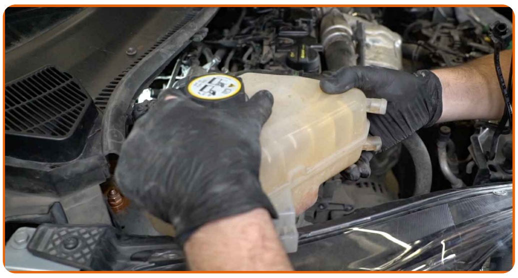
51 Unscrew the fasteners of the air conditioner piping bracket. Use a drive socket #10. Use a ratchet wrench.



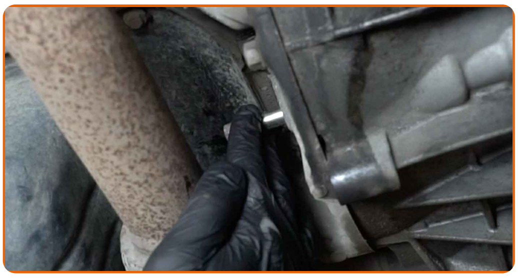
52 Release the coolant reservoir retainers. Use a clip removal tool.



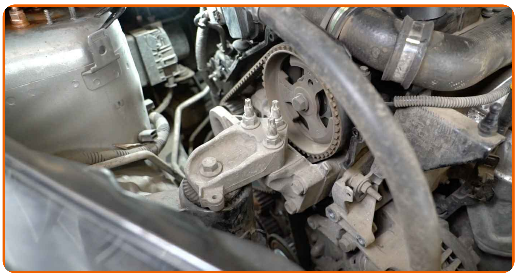
53 Remove the coolant reservoir.



54 Remove the flywheel locking tool. Use an engine timing tool set.



55 Turn the crankshaft gear. Use a drive socket #18. Use a ratchet wrench.



Please note!

- The piston should be at its top dead centre (TDC).

56 Install the crankshaft gear locking tool according to the factory marks. Use an engine timing tool set.



57

Install the camshaft gear locking tool according to the factory marks. Use an engine timing tool set.



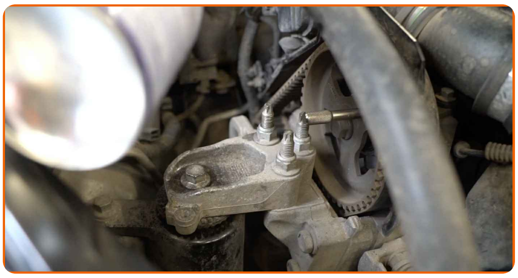
58

Support the engine in the oil pan area. Use a hydraulic transmission jack.



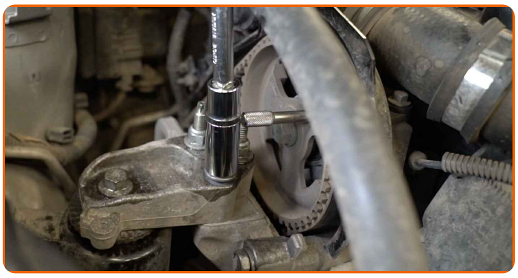
59

Clean the engine mount fasteners. Use WD-40 spray.



60

Unscrew the upper fastener of the engine mount. Use a drive socket #15. Use a ratchet wrench.



61 Unscrew the engine mount fasteners. Use a drive socket #16. Use a ratchet wrench.



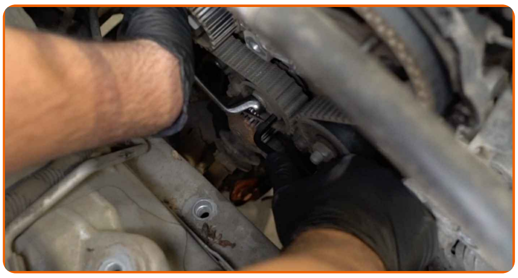
62 Remove the fastening bolts.



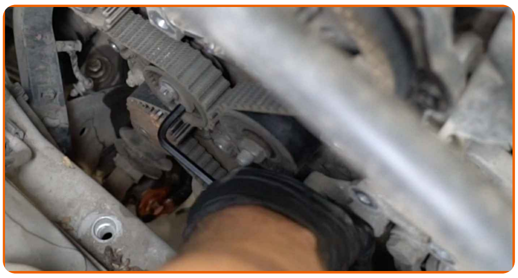
63 Remove the engine mount.



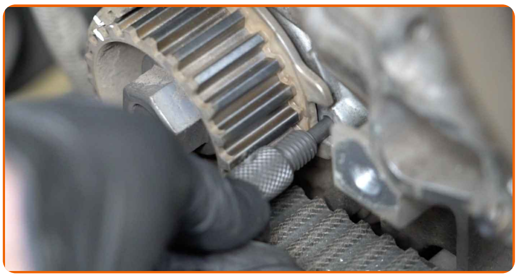
64 Loosen the fastener of the timing belt tensioner pulley. Use a combination spanner #13. Use HEX No.H6.



65 Pull aside the timing belt tensioner pulley.



66 Install the timing belt tensioner pulley locking tool. Use an engine timing tool set.



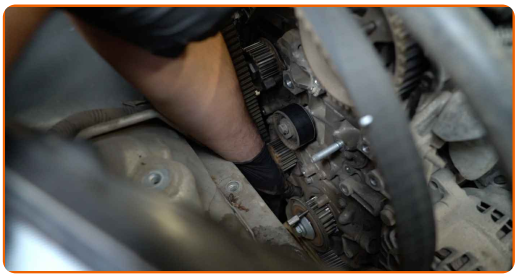
67 Unscrew the fastener of the timing belt idler pulley. Use a combination spanner #16.



68 Remove the timing belt idler pulley from its mounting seat.



69 Remove the timing belt.



70 Remove the timing belt tensioner pulley.



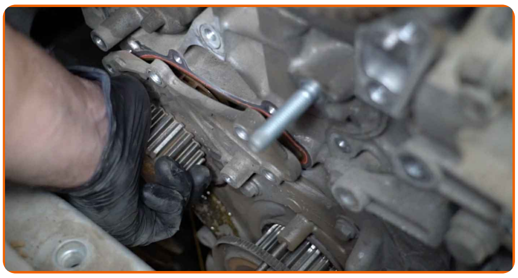
71

Unscrew the water pump fasteners. Use a drive socket #8. Use a ratchet wrench.



72

Remove the water pump. Use a crowbar.

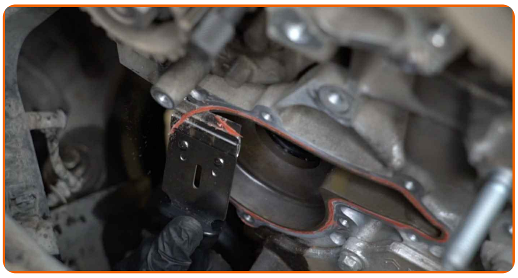


Replacement: water pump & timing belt kit – Ford Fiesta JA8. AUTODOC experts recommend:

- Caution! Coolant may come out from the water pump channels and body.

73

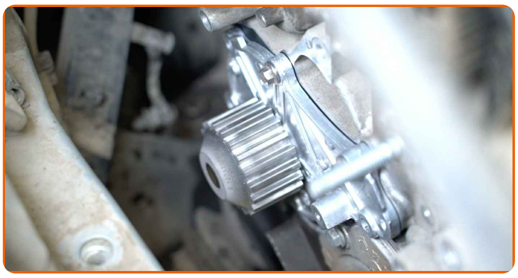
Clean the water pump mounting seat. Use a seal scraper. Use all-purpose cleaning spray.



74 Install the water pump gasket.



75 Install the new water pump.



76 Tighten the water pump fasteners. Use a drive socket #8. Use a torque wrench. Tighten it to 10 Nm torque.



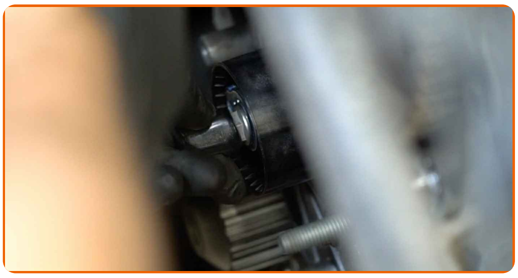
77 Treat the fastening bolt. Use a sealant.



78 Install the timing belt tensioner pulley.



79 Screw in the fastener of the timing belt tensioner pulley. Use a combination spanner #13.



80 Install the timing belt idler pulley.



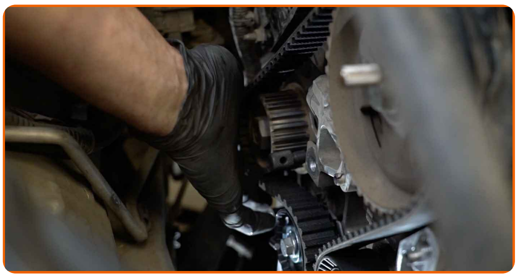
81 Treat the fastening bolt. Use a sealant.



82 Tighten the fastener of the timing belt idler pulley. Use a drive socket #16. Use a torque wrench. Tighten it to 37 Nm torque.



83 Install the new timing belt.



Replacement: water pump & timing belt kit – Ford Fiesta JA8. Tip from AUTODOC:

- Be careful not to damage the timing belt.

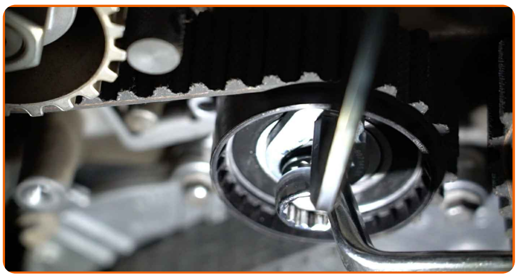
84 Adjust the timing belt tension by moving the tensioner pulley.



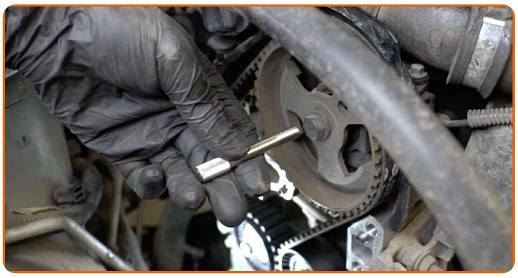
AUTODOC recommends:

- Make sure that the timing belt is properly tensioned.

85 Tighten the fastener of the timing belt tensioner pulley. Use a combination spanner #13. Use HEX No.H6. Use a torque wrench. Tighten it to 30 Nm torque.

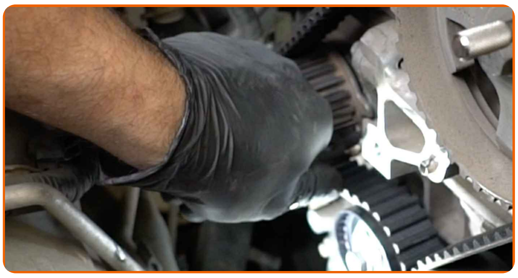


86 Remove the timing belt tensioner pulley locking tool.



87

Remove the camshaft gear locking tool.



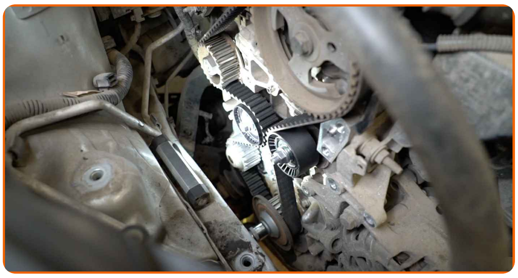
88

Remove the crankshaft gear locking tool.



89

Turn the crankshaft pulley. Use a drive socket #18. Use a ratchet wrench.

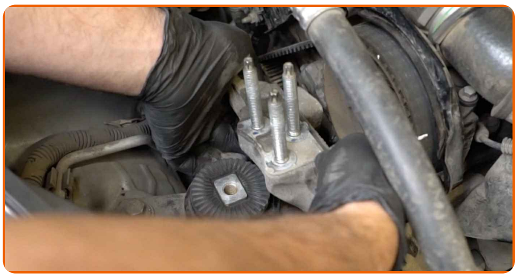


Replacement: water pump & timing belt kit – Ford Fiesta JA8. Professionals recommend:

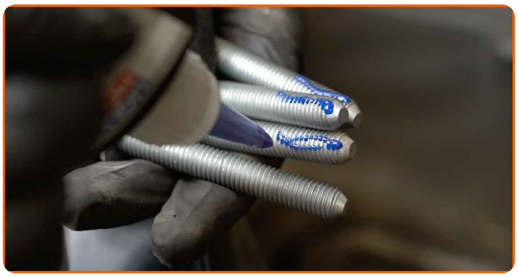
- Make sure all the timing belt components are mounted correctly.

90

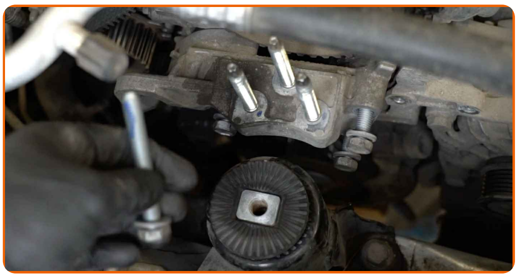
Install the engine mount to its mounting seat.



91 Treat the engine mount fasteners. Use a sealant.



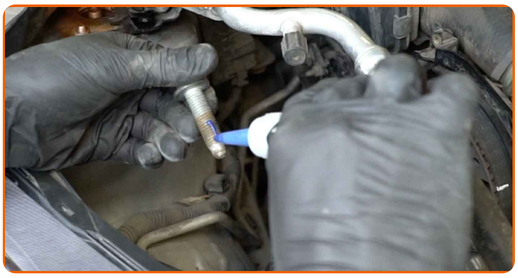
92 Install the fastening bolts.



93 Tighten the engine mount fastening bolts. Use a drive socket #16. Use a torque wrench. Tighten it to 55 Nm torque.

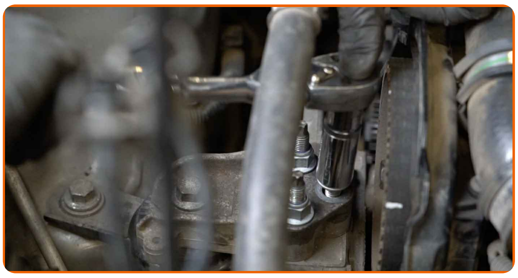


94 Treat the fastening bolts. Use a sealant.



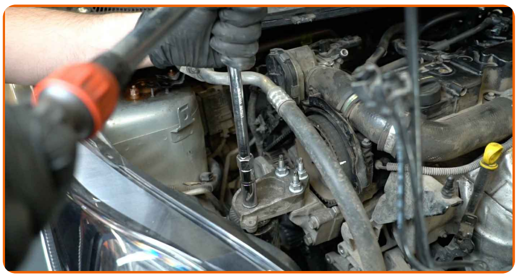
95

Screw in the upper fasteners of the engine mount. Use a drive socket #15. Use a ratchet wrench.



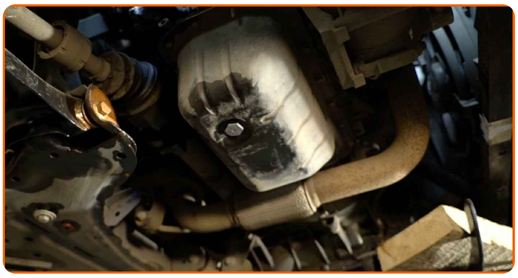
96

Tighten the upper fastener of the engine mount. Use a drive socket #15. Use a torque wrench. Tighten it to 50 Nm torque.



97

Remove the support from under the engine.



AUTODOC recommends:

- Ford Fiesta JA8 – Do not lower the transmission jack sharply to avoid damaging components and mechanisms of the car.

98 Install the crankshaft position sensor.



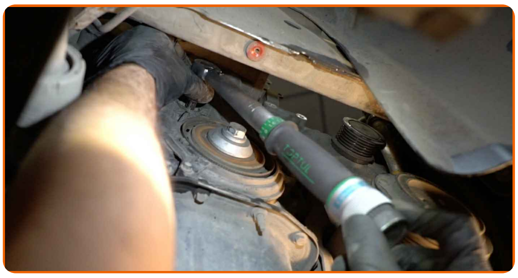
99 Tighten the fastener of the crankshaft position sensor. Use a drive socket #8. Use a torque wrench. Tighten it to 9 Nm torque.



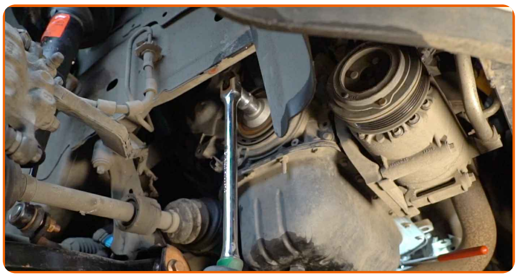
100 Install the lower timing cover.



101 Tighten the fasteners of the lower timing cover. Use a drive socket #7. Use a torque wrench. Tighten it to 6 Nm torque.



102 Turn the crankshaft gear. Use a drive socket #18. Use a ratchet wrench.



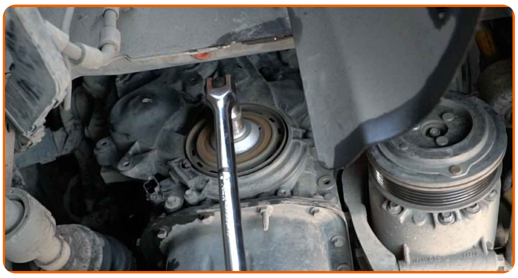
Please note!

- The piston should be at its bottom dead centre (BDC).
- Adjust the valve timing according to the factory marks.

103 Install the flywheel locking tool according to the factory marks. Use an engine timing tool set.



104 Unscrew the crankshaft pulley fastener. Use a drive socket #18. Use a ratchet wrench.



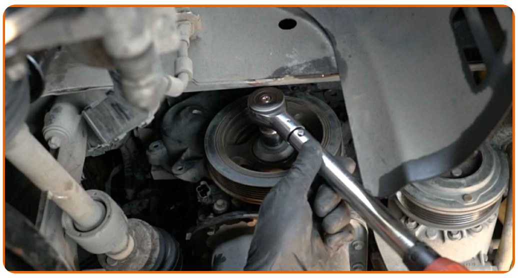
105

Install the crankshaft pulley according to the factory marks.



106

Tighten the crankshaft pulley fastener. Use a drive socket #18. Use a torque wrench. Tighten it to 35 Nm torque.+190°

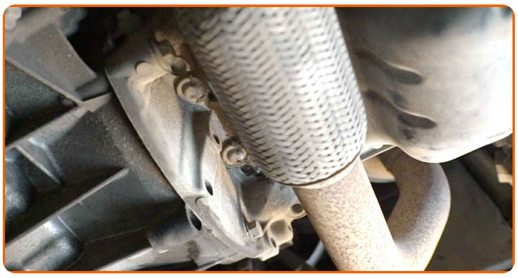


AUTODOC recommends:

- Important! Be sure to use new fasteners.

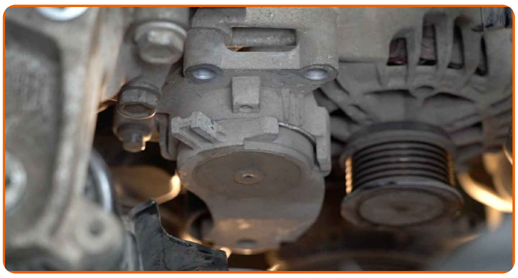
107

Remove the flywheel locking tool.

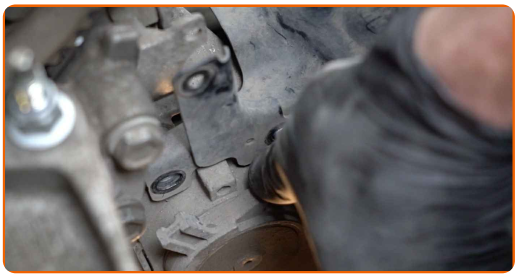


108

Install the serpentine belt tensioner pulley.



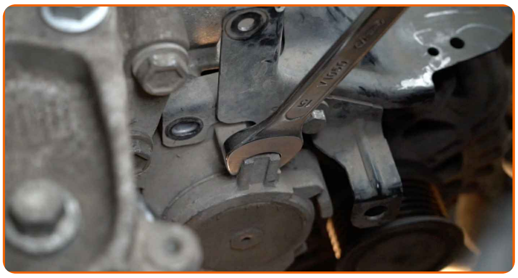
109 Install the alternator wiring harness bracket.



110 Screw in the fasteners of the engine wiring harness bracket. Screw in the fasteners of the alternator wiring harness bracket. Use a drive socket #10. Use a ratchet wrench.



111 Pull aside the V-ribbed belt tensioner pulley. Use a combination spanner #15.



112 Screw in the fastener of the serpentine belt tensioner pulley. Use a drive socket #10. Use a ratchet wrench.



113 Tighten the fasteners of the engine wiring harness bracket. Tighten the fasteners of the alternator wiring harness bracket. Use a drive socket #10. Use a torque wrench. Tighten it to 14 Nm torque.



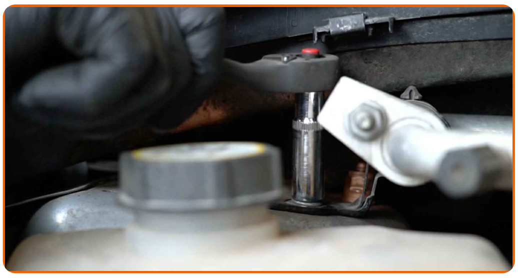
114 Tighten the fastener of the serpentine belt tensioner pulley. Use a drive socket #10. Use a torque wrench. Tighten it to 16 Nm torque.



115 Install the coolant reservoir. Make sure you hear a click indicating that it is locked in place.



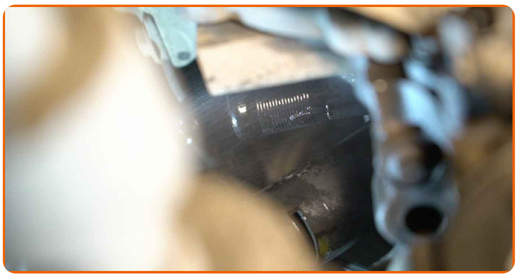
116 Screw in the fasteners of the air conditioner piping bracket. Use a drive socket #10. Use a ratchet wrench.



117 Attach the coolant hoses to the coolant reservoir.



118 Clean the lower coolant pipe mounting seat. Use all-purpose cleaning spray.



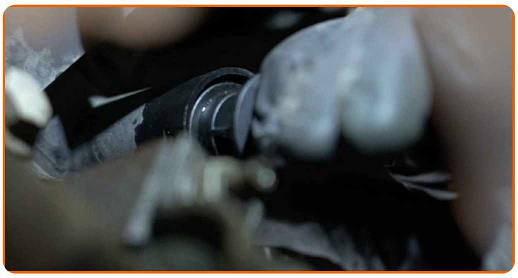
119 Attach the lower coolant pipe.



120 Attach the clamp of the lower coolant pipe. Use combination pliers.



121 Install the coolant drain plug.



122 Install the coolant drain plug retaining clip.



123 Install the crankshaft pulley cap.



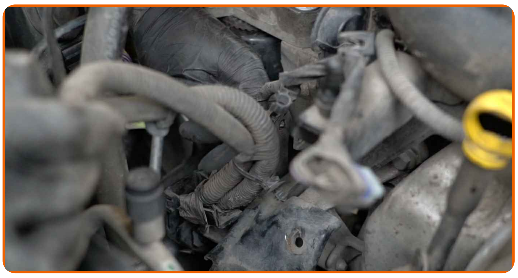
124 Screw in the fasteners of the engine wiring harness bracket. Use a drive socket #8. Use a ratchet wrench.



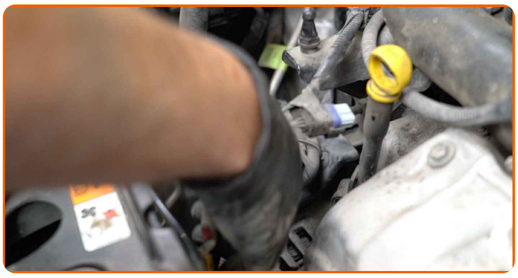
125 Attach the engine wiring harness.



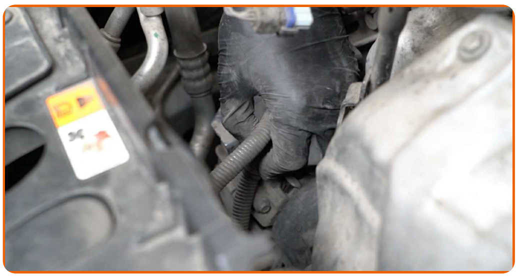
126 Attach the alternator wiring harness.



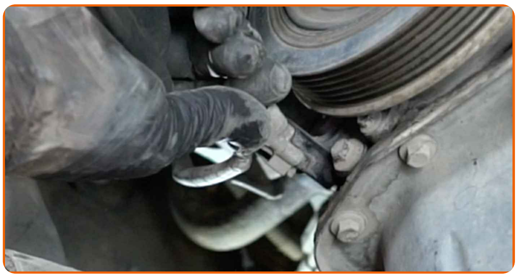
127 Attach the engine wiring harness clip to the timing cover.



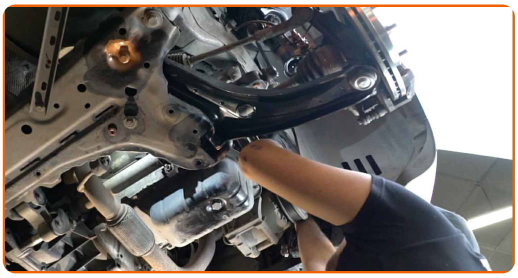
128 Attach the alternator wiring harness clip to the bracket.



129 Connect the connector of the crankshaft position sensor.



130 Attach the crankshaft position sensor wiring.



131 Screw in the alternator wiring harness fastener. Use a drive socket #13. Use a ratchet wrench.



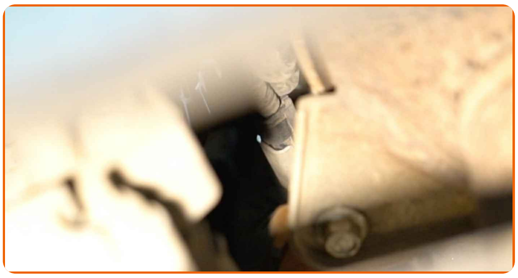
132 Install the cap on the alternator wiring harness fastener.



133 Connect the connector of the air conditioner compressor.



134 Connect the alternator connector.



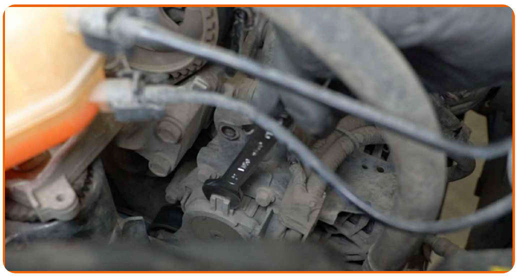
135 Install the V-ribbed belt.



Replacement: water pump & timing belt kit – Ford Fiesta JA8. Tip from AUTODOC experts:

- Make sure that the V-ribbed belt fits all pulleys snugly.

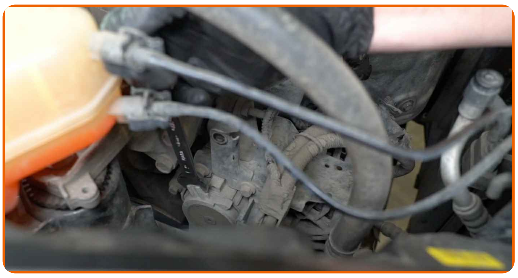
136 Pull aside the V-ribbed belt tensioner pulley. Use a combination spanner #15.



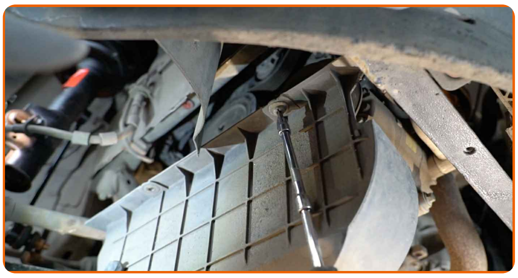
137 Place the V-ribbed belt on the tensioner pulley.



138 Return the tensioner pulley to its initial position. Use a combination spanner #15.



139 Install the lower serpentine belt cover.



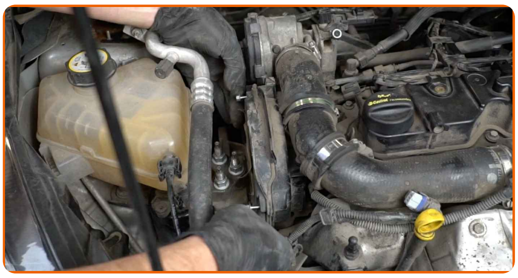
140

Screw in the fasteners of the lower serpentine belt cover. Use Torx T30. Use a ratchet wrench.



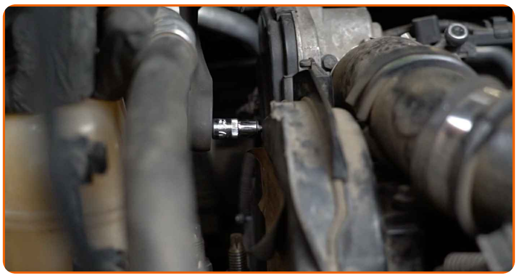
141

Install the upper timing cover.



142

Screw in the fasteners of the upper timing cover. Use a drive socket #7. Use a ratchet wrench.



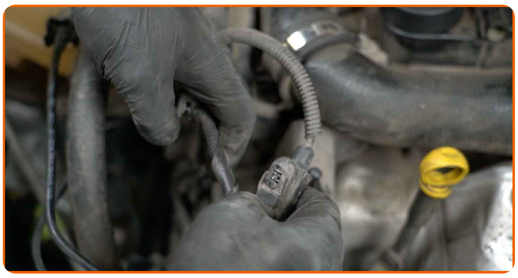
143

Attach the engine wiring harness to the upper timing cover.



144

Connect the engine wiring harness connector.



145 Remove the coolant reservoir cap.



146 Insert the funnel.



147 Pour coolant in the coolant reservoir.



Replacement: water pump & timing belt kit – Ford Fiesta JA8. Tip:

- Only use the coolant recommended by the manufacturer.
- The coolant level should be at the MAX mark.
- Wait until the air goes out of the system.

148

Install the coolant reservoir cap.



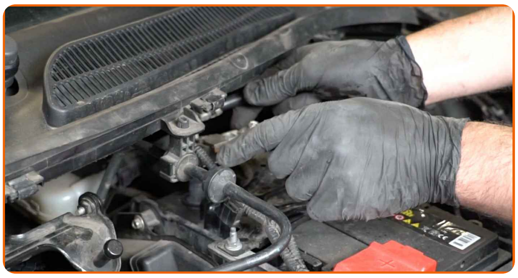
149

Screw on the coolant reservoir cap.



150

Attach the terminals to the battery.

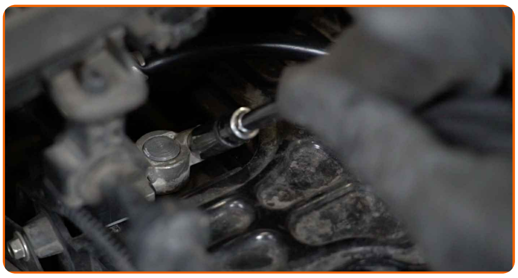


Replacement: water pump & timing belt kit – Ford Fiesta JA8. AUTODOC experts recommend:

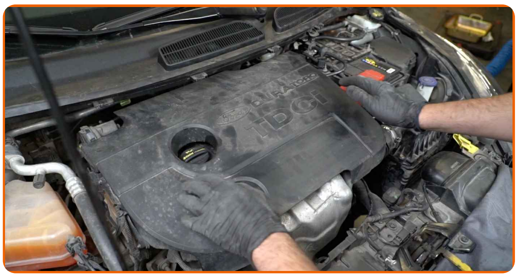
- Be careful! Do not mix up the positive and the negative terminals of the car battery.

151

Screw in the fasteners of the battery terminals. Use a drive socket #10. Use a ratchet wrench.



152 Install the engine cover and secure it.



AUTODOC recommends:

- Make sure the engine cover is properly seated. It should not be displaced with respect to the guiding fasteners.
- Warning! To avoid damaging the fasteners of the car during installation, do not use excessive force. Ford Fiesta JA8

153 Run the engine for a few minutes. This should be done in order to remove residual air from the cooling system and to check if the components are operating correctly.



154 Shut off the engine.

155 Check the coolant level. If necessary, top up to the required level.



Please note!

- The coolant level should be at the MAX mark.

156 Remove the fender protection cover.



157 Close the hood.



Replacement: water pump & timing belt kit – Ford Fiesta JA8. Professionals recommend:

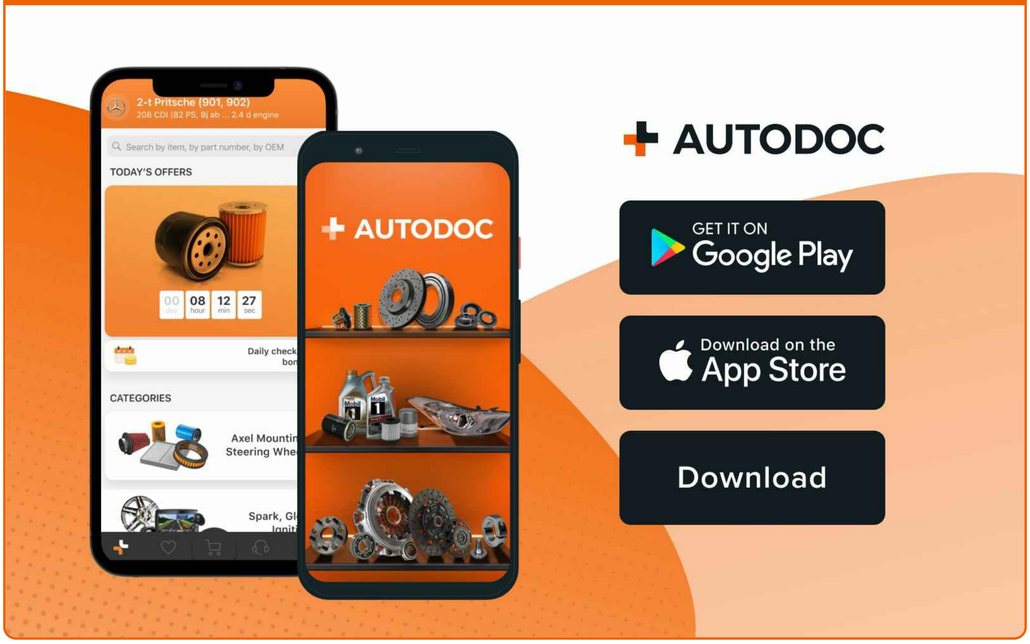
- Be sure to record the mileage at which you replaced the timing belt and water pump kits.

WELL DONE!

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